



# AMPLITUDE™

## BIOFUNGICIDE

Broad-spectrum biofungicide/bactericide for control or suppression of fungal and bacterial plant diseases

**Active ingredient:** *Bacillus amyloliquifaciens* strain F727\* cells and spent fermentation media ..... 96.4%

**Other ingredients:** ..... 3.6%

**Total** ..... 100.0%

\*Contains a minimum of  $1 \times 10^9$  cfu/mL of product

EPA Reg. No.: 84059-28

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

<b>IF SWALLOWED:</b>	Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>IF ON SKIN OR CLOTHING:</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>IF INHALED:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>IF IN EYES:</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

### HOTLINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or if going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.



CAN BE USED IN ORGANIC PRODUCTION



Manufactured by:



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1-877-664-4476; info@marronebio.com

## PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS- CAUTION:** Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Applicators and other handlers must wear:

- long-sleeved shirt and long pants
- shoes plus socks
- waterproof gloves

Mixers/loaders and applicators must wear a NIOSH-approved particulate filter with any N, R, P filter with NIOSH approval number prefix TC-84A. ; or a NIOSH- approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, including a spill or equipment break-down.

**USER SAFETY RECOMMENDATIONS:** Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS:** For terrestrial uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high-water mark. Do not contaminate water when disposing of equipment wash waters or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and the restricted-entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water wear:

- Coveralls
- Chemical resistant gloves (made of any waterproof material)
- Shoes plus socks

**EXCEPTION:** If the product is soil incorporated or soil injected, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

## PRODUCT INFORMATION

AMPLITUDE Biofungicide is a biological fungicide, containing *Bacillus amyloliquifaciens* strain F727. Apply prior to disease infestation to protect the growing leaf tissue, flowers and above ground fruits and vegetables. AMPLITUDE Biofungicide can be used in multiple application methods to control or suppress certain foliar and soil-borne diseases. See specific information below for diseases controlled, use rates and application intervals.

AMPLITUDE Biofungicide can be used in either the field or greenhouse for the prevention of any labeled disease.

## MODE OF ACTION

The active ingredient in AMPLITUDE Biofungicide is a beneficial rhizobacterium that colonizes plant root hairs, leaves and other surfaces to prevent establishment of fungal and bacterial plant diseases. AMPLITUDE Biofungicide has a protective effect because it inhibits spore germination and a curative effect because it inhibits mycelial growth and sporulation of the fungus on the leaf surface. However, optimum disease control is achieved when AMPLITUDE Biofungicide is applied preventatively in a regularly scheduled protective spray program and used in rotation or tank mix program with other registered fungicides.

## MIXING AND APPLICATION INSTRUCTIONS

### – SHAKE WELL PRIOR TO USE –

AMPLITUDE Biofungicide is an aqueous suspension. Use 50-mesh nozzle screens or larger.

See **FOLIAR (AERIAL OR GROUND) APPLICATION** section for foliar application use directions.

See **CHEMIGATION** section for chemigation use directions.

See **SOIL TREATMENT** section for soil application use directions.

Use higher water volumes with larger sized crops and extensive foliage to secure thorough coverage.

**AMPLITUDE Biofungicide alone:** Add ½ of the required amount of water to the mix tank. With the agitator running, add AMPLITUDE Biofungicide to the mix tank. Continue agitation while adding the remainder of the water. Begin application of the solution after AMPLITUDE Biofungicide has completely dispersed into the mix water. Maintain agitation until all the mixture has been applied.

**AMPLITUDE Biofungicide + tank-mixtures:** Add 1/2 - 3/4 of the required amount of water to the mix tank. Start the agitation before adding any tank mix partners. In general, tank-mix partners should be added in this order: wettable powders, dry flowable formulations, liquid flowable formulations, and emulsifiable formulations such as AMPLITUDE Biofungicide. Always allow each tank-mix partner to become completely dispersed before adding the next component. Maintain continuous agitation until all components have been dispersed and throughout the application process. After all components are completely dispersed add the remainder of the water. AMPLITUDE Biofungicide cannot be mixed with another product with a prohibition against mixing. Use of the tank mix must be in accordance with the more restrictive label limitations and precautions. **Do not pre-mix AMPLITUDE Biofungicide with any other tank-mix component prior to adding to the spray tank.**

**Compatibility:** Do not combine AMPLITUDE Biofungicide in the spray tank with pesticides, adjuvants, or fertilizers if there has been no previous experience or use of the combination to show it is physically compatible, effective, and non-injurious under your use conditions.

AMPLITUDE Biofungicide is compatible with many commonly used pesticides, fertilizers, adjuvants, and surfactants, but has not been evaluated with all potential combinations. To ensure compatibility of the tank mix combinations, evaluate prior to use as follows: Using a suitable container, add the proportional amounts of product to water. Add wettable powders first, then water dispersible granules, then liquid flowables, and lastly, emulsifiable concentrates. Mix thoroughly and let stand for at least five minutes. If the combination stays mixed or can be remixed, it is physically compatible. Test the mix on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of the application.

## **FOLIAR (GROUND AND AERIAL) APPLICATION INSTRUCTIONS**

Apply AMPLITUDE Biofungicide in ground and aerial application equipment to the crops listed at the rates specified in the SELECTED CROPS section. Increasing the amount of water applied per acre may improve product performance. Attention should be given to sprayer speed and calibration, wind speed, and foliar canopy to ensure adequate spray coverage.

### **Row Crop Application**

Use calibrated power-operated ground equipment capable of providing uniform coverage of the target crop. Orient the boom and nozzles to obtain uniform crop coverage. Unless specified differently in the SELECTED CROPS section, a minimum of 10 gallons per acre by ground or 5 gallons by aerial application should be utilized, increasing volume with crop size and/or pest pressure. Use hollow cone, disc core/hollow cone or twin jet flat fan nozzles suitable for fungicide spraying. Under certain conditions, drop nozzles may be required to obtain complete coverage of plant surfaces. Follow manufacturer's recommendations for ideal nozzle spacing and spray pressure and minimize boom height to optimize uniformity of coverage and maximize deposition to reduce drift.

Do not spray when wind speed favors drift beyond the area intended for use.

Avoiding spray drift is the responsibility of the applicator.

## **AERIAL DRIFT REDUCTION ADVISORY INFORMATION**

Unless specified differently in the SELECTED CROPS section, apply in a spray volume of 5 or more gallons per acre on row crops and 10 or more gallons per acre on tree crops. Disease control by aerial application may be less than control by ground application because of reduced coverage.

**SPRAY DRIFT** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. Note: This section is advisory in nature and does not supersede the mandatory label requirements.

**INFORMATION ON DROPLET SIZE:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply droplets large enough to provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

**CONTROLLING DROPLET SIZE:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When high flow rates are needed, use higher flow rate nozzles instead of increasing pressure. Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage. Nozzle Orientation – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. Nozzle Type – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**BOOM WIDTH:** For aerial applications, the boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use medium or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

**APPLICATION HEIGHT:** Do not make application at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**SWATH ADJUSTMENT:** When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, smaller drops, etc.).

**WIND:** Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

**TEMPERATURE AND HUMIDITY:** When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**TEMPERATURE INVERSIONS:** Do not apply during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small, suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**SENSITIVE AREAS:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas). Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

## **CHEMIGATION USE DIRECTIONS**

Apply **AMPLITUDE Biofungicide** according to the instructions below unless specified differently in the **SELECTED CROPS** section.

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### **CHEMIGATION**

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#### **General Requirements -**

- 1) Apply this product only through a drip system or sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, hand move, flood (basin), furrow, border or drip (trickle) irrigation systems. Do not apply this product through any other type of irrigation system.
- 2) Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- 3) If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
- 4) Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
- 5) A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

#### **Specific Requirements for Chemigation Systems Connected to Public Water Systems -**

- 1) Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
- 2) Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 3) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 4) The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 5) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

### **Specific Requirements for Sprinkler Chemigation -**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
- 7) Do not apply when wind speed favors drift beyond the area intended for treatment.

### **Specific Requirements for Flood (Basin), Furrow and Border Chemigation -**

- 1) Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from back flow if water flow stops.
- 2) The systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
  - a. The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
  - b. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
  - c. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
  - d. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
  - e. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
  - f. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

### **Specific Requirements for Drip (Trickle) Chemigation -**

- 1) The system must contain a functional check valve, vacuum relief valve and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
- 2) The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 3) The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- 4) The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 5) The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- 6) Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.

### **Application Instructions for All Types of Chemigation -**

- 1) Remove scale, pesticide residues, and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residues may cause product to lose effectiveness or strength.
- 2) Determine the treatment rates as indicated in the directions for use and make proper dilutions. Product can be applied continuously or at any time during the water application.
- 3) Prepare a solution in the chemical tank by filling the tank with the required water and then adding product as required. Maintain agitation throughout the mixing and application process.

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## **SOIL TREATMENT USE DIRECTIONS**

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AMPLITUDE Biofungicide can be applied by soil drench, in-furrow and banded spray, or soil injection to improve plant health and to protect against certain soil-borne diseases.

In general, AMPLITUDE Biofungicide can be applied by the following methods, unless specified differently in the SELECTED CROPS section:

#### **Soil Drench Applications:**

Apply AMPLITUDE Biofungicide at a concentration of 3 – 4 quarts per acre in sufficient water to thoroughly soak the growing media and root zone. Make an initial application of AMPLITUDE Biofungicide during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.

#### **Shanked-In and Injected Applications:**

AMPLITUDE Biofungicide can be shanked-in or injected into the soil alone, or with most types of liquid nutrients. Refer to the In-Furrow and Banded Applications table below for rate instructions.

#### **In-Furrow and Banded Applications:**

At planting, apply AMPLITUDE Biofungicide as an in-furrow or banded spray at the rate of 6 – 8 fluid ounces per 1,000 feet of row according to the chart below. Apply AMPLITUDE Biofungicide in 5 to 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered. For banded applications apply to the open seed furrow and lightly incorporate after the seed furrow is closed.



Rate	In-Furrow and Banded Application Rates Product per Acre (fl. oz.)						
	20" Rows	30" Rows	32" Rows	34" Rows	36" Rows	38" Rows	40" Rows
6.0 fl. oz. per 1,000 ft. row		104.5	97.9	92.2	87.1	82.5	78.4
8.0 fl. oz. per 1,000 ft. row				123.0	116.2	110.0	104.5

15" = 34,848 row ft./acre, 20" = 26,136 row ft./acre, 30" = 17,424 row ft./acre, 32" = 16,315 row ft./acre, 34" = 15,374 row ft./acre, 36" = 14,520 row ft./acre, 38" = 13,754 row ft./acre, 40" = 13,068 row ft./acre. Twin row 30" centers = 34,848 row ft./acre.

## APPLICATION RATES FOR SELECTED CROPS

AMPLITUDE Biofungicide can be applied up to and including the day of harvest.

Use higher water volumes with larger sized crops and extensive foliage in order to secure thorough coverage. See specific application recommendations for additional details.

For greenhouse application, the recommended use rate for AMPLITUDE Biofungicide is 2 - 4 quarts in 100 gallons of water sprayed until just before point of runoff. When tank mixed with another fungicide, the use rate for AMPLITUDE Biofungicide is 2 - 4 quarts in 100 gallons of water. Repeat at 7- to 10-day intervals as needed. See specific application recommendations for additional details.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Bulb Vegetables</b> Onion (Bulb and Green)  <i>(continued)</i>	Botrytis Leaf Blight* <i>(Botrytis squamosa)</i>  Botrytis Neck Rot* <i>(Botrytis spp.)</i>  Downy Mildew <i>(Peronospora spp.)</i>  Onion Downy Mildew <i>(Peronospora destructor)</i>	Foliar	2 - 4 quarts per acre	For foliar applications, apply this product preventatively in 20 - 50 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.

*(continued)*

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
(continued) <b>Bulb Vegetables</b> Onion (Bulb and Green)	<i>Fusarium</i> spp.* <i>Pythium</i> spp.* <i>Rhizoctonia</i> spp.	Soil Drench Chemigation (drip)	3 – 4 quarts per acre	For soil drench applications, apply this product at a concentration of 3 - 4 quarts per acre in sufficient water to thoroughly soak the growing media and root zone. Make an initial application of this product during or shortly after transplant to reduce transplant shock, suppress soil-borne diseases and improve root growth. Multiple drench applications can be made on a 10- to 21-day interval.
		In-Furrow	3 – 4 quarts per acre 6 – 8 fl. oz. per 1,000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 6 – 8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
		Chemigation (sprinkler)	3 – 4 quarts per acre	For chemigation applications, apply AMPLITUDE through overhead irrigation at the rate of 3 - 4 quarts per acre immediately after transplant and at 10- to 21-day intervals or begin 14 days after transplant when soil drench applications are used.

\*= not labeled for this use in California

AMPLITUDE Biofungicide has a **pre-harvest interval (PHI)** of **0 days**.

Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI)** of **4 hours**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Legumes/ Vegetables</b> (excluding soybeans and peanuts) Chick Peas Dry Beans Garbanzo Beans Green Beans Lentils Lima Beans	Bacterial Blight ( <i>Xanthomonas campestris</i> )  Gray Mold* ( <i>Botrytis cinerea</i> )  White Mold ( <i>Sclerotinia sclerotiorum</i> )	Foliar (Ground)	2 - 4 quarts per acre	For foliar applications, apply this product preventatively in 20 - 50 gallons of water per acre.  Repeat applications at 7- to 10-day intervals.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
		Foliar (Aerial)	2 - 4 quarts per acre	For aerial applications, apply this product preventatively in a minimum of 5 gallons of water per acre. Repeat applications at 7- to 10-day intervals.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	<i>Fusarium</i> spp.* <i>Phytophthora</i> spp. <i>Pythium</i> spp.* <i>Rhizoctonia</i> spp.	In-Furrow	6 - 8 fl. oz. per 1,000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 6 - 8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

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Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Oil Seed Crops (not including cotton, peanut, or soybean)</b>  Canola Castor Flax Rapeseed Safflower Sesame Sunflower And other oilseed crops	Bacterial Pustule* <i>(Xanthomonas spp.)</i>  Bacterial Speck* <i>(Pseudomonas syringae pv. glycinea)</i>  Downy Mildew <i>(Peronospora mansherica)</i>  White Mold/ Sclerotinia Stem Rot <i>(Sclerotinia sclerotiorum)</i>	Foliar (Ground)	2 - 4 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply this product preventatively in 20 - 40 gallons of water per acre by ground application.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
		Foliar (Aerial)	2 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
	<i>Fusarium spp.*</i> <i>Phytophthora spp.</i> <i>Pythium spp.*</i> <i>Rhizoctonia spp.</i> <i>Verticillium spp.*</i>	In-furrow	6 - 8 fl. oz. per 1,000 ft. row	For in-furrow applications, at planting apply this product as an in-furrow spray at the rate of 6 - 8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

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Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Root, Tuber and Corn Crops</b> Potato Beet Carrot Sweet Potato Turnip	Bacterial Leaf Blight ( <i>Xanthomonas campestris</i> ) Downy Mildew ( <i>Peronospora</i> spp.) Gray Mold* ( <i>Botrytis</i> spp.) Late Blight ( <i>Phytophthora infestans</i> ) White Mold ( <i>Sclerotinia sclerotiorum</i> )	Foliar	2 - 4 quarts per acre	For foliar applications, apply this product in 25 - 50 gallons of water per acre sufficient to provide thorough coverage. Begin application soon after emergence or transplant, and when conditions are conducive to disease development. Repeat on a 7- to 10-day interval. Use shorter intervals when conditions are conducive to rapid disease development.  For control of Late Blight ( <i>Phytophthora infestans</i> ), begin application of this product in 25 - 100 gallons of water per acre soon after emergence when conditions are conducive to disease development. Repeat on a 7-day interval.
(continued)	(continued)	In-Furrow	6 - 8 fl. oz. per 1,000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 6 - 8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.

(continued)

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
(continued) <b>Root, Tuber and Corm Crops</b> Potato Beet Carrot Sweet Potato Turnip	(continued) <i>Fusarium</i> spp.* <i>Phytophthora</i> spp. <i>Pythium</i> spp.* <i>Rhizoctonia</i> spp. <i>Verticillium</i> spp.* Pink Rot ( <i>Phytophthora erythroseptica</i> )	Potato Seed Piece Treatment	3.2 – 4.8 fl. oz. per 100 lbs. of seed pieces	For seed piece applications for improved plant growth and suppression of soil-borne diseases, apply this product to seed pieces immediately prior to planting.
		Chemigation (Drip)	3 - 4 quarts per acre	For chemigation applications for improved plant growth and suppression or control of soil-borne diseases apply this product through drip irrigation at the rate of 3 – 4 quarts per acre at 14- to 21-day intervals. Or begin 14 days after transplant when plant dip or soil drench applications are used.

\*= not labeled for this use in California

AMPLITUDE Biofungicide has a **pre-harvest interval (PHI)** of **0 days**.

Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI)** of **4 hours**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
<b>Soybean</b>	White Mold ( <i>Sclerotinia sclerotiorum</i> )	Foliar (Ground)	2 - 4 quarts per acre	For ground applications, apply 2 – 4 quarts of this product preventatively in 20 - 40 gallons of water per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.
		Foliar (Aerial)	2 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 5 gallons of water per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.

AMPLITUDE Biofungicide has a **pre-harvest interval (PHI)** of **0 days**.

Do not enter or allow worker entry into treated areas during the **restricted-entry interval (REI)** of **4 hours**.

Crop	Target Disease	Application Method	Product Use Rate per Application	Application Instructions
Sugarcane*	Red Rot ( <i>Colletotrichum falcatum</i> )	Foliar (Ground)	2 - 4 quarts per acre	For ground applications to optimize disease control and to maximize yields, apply this product preventatively in 20 - 40 gallons of water per acre by ground application.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.  For improved performance, apply this product in a tank mix program with another registered fungicide.
		Foliar (Aerial)	2 - 4 quarts per acre	For aerial applications, apply this product in a minimum of 10 gallons of water per acre.  Consult your local Extension specialist or crop consultant regarding the optimum timing of fungicide applications.  For improved performance, apply this product in a tank mix program with another registered fungicide.
	<i>Fusarium</i> spp. <i>Phytophthora</i> spp. <i>Pythium</i> spp. <i>Rhizoctonia</i> spp.	In-Furrow	6 – 8 fl. oz. per 1,000 ft. row	For in-furrow applications at planting, apply this product as an in-furrow spray at the rate of 6 - 8 fluid ounces per 1,000 feet of row according to the chart in the SOIL TREATMENT USE DIRECTIONS section. Apply this product in 5 - 15 gallons of water so as the spray is directed into the seed furrow just before the seeds are covered.
<p>*= not labeled for this use in California  AMPLITUDE Biofungicide has a <b>pre-harvest interval (PHI)</b> of <b>0 days</b>.  Do not enter or allow worker entry into treated areas during the <b>restricted-entry interval (REI)</b> of <b>4 hours</b>.</p>				

# STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Storage:** Store in a cool, dry place. Avoid freezing.

**Pesticide Disposal:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**Container Handling: For plastic containers less than or equal to 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

**For plastic containers greater than 5 gallons: Nonrefillable container.** Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple Rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration.

**For plastic, refillable containers:** Refill this container with AMPLITUDE Biofungicide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat rinsing procedure two more times.

Marrone Bio Innovations is a member of the Ag Container Recycling Council.  
Visit <http://www.acrecycle.org/contact.html> for information on how to arrange pick-up of this empty pesticide container.



## WARRANTY

To the extent consistent with applicable law, the seller makes no warranty, expressed or implied, of merchantability, fitness or otherwise concerning use of this product. To the extent consistent with applicable law, the user assumes all risks of use, storage or handling that are not in accordance with the accompanying directions.

Repackaging or relabeling of this product without express written permission from Marrone Bio Innovations is prohibited.

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